UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
11201 RENNER BOULEVARD
LENEXA, KS 66219

AUG 23 2013

OFFICE OF
THE REGIONAL ADMINISTRATOR

The Honorable Claire McCaskill
United States Senator
Washington, D.C. 20510

Dear Senator McCaskill,

Thank you for your letter of July 29, 2013, to the U.S. Environmental Protection Agency about the West Lake Landfill in Bridgeton. The EPA appreciates your interest in the Bridgeton and West Lake landfills. The EPA continues to work closely with the Missouri Department of Natural Resources and the Missouri Attorney General's Office. The Agency for Toxic Substances and Disease Registry and part of the U.S. Department of Health and Human Services, is advising the EPA about human health issues related to the landfills and works closely with the Missouri Department of Health and Senior Services. The EPA also maintains active communication with ATSDR and MDHSS.

The landfills' responsible parties will collect the last quarterly round of groundwater sampling with the EPA oversight in October 2013. During calendar year 2014, additional work and data evaluations will be performed by the PRPs under EPA oversight. The U.S. Geological Survey, as outlined in the enclosed document, is advising this agency about the groundwater issues at West Lake. The process steps outlined on the attachment will give us some time to complete in order to give the EPA the evaluations needed to inform a West Lake remedy selection. Therefore, I cannot provide a precise timeline for the EPA to select and construct the remedy at this time. I will continue to keep you well informed about this agency's actions and welcome your involvement.

For your convenience, I am enclosing correspondence that the EPA Region 7 recently provided to the Missouri Coalition for the Environment responding to questions about the current conditions. I am also enclosing my recent letter to Congressman Clay, as well as a document which identifies steps to remedy implementation at West Lake Landfill.

We will continue to keep you and your staff informed of updates regarding the West Lake Landfill Superfund Site. If we can be of any further assistance, please feel free to contact me at 913-551-7006, or your staff may call LaTonya Sanders, Congressional Liaison, at 913-551-7555.

Sincerely,

Karl Brooks

Enclosures

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AUG 23 2013

OFFICE OF
THE REGIONAL ADMINISTRATOR

The Honorable William Lacy Clay
U.S. House of Representatives
Washington, D.C. 20515

Dear Congressman Clay:

Thank you for your letter of August 2, 2013, to the U.S. Environmental Protection Agency about the West Lake Landfill Site in Bridgeton. I appreciate your responsibility to your constituents who are concerned about the conditions at the West Lake Landfill Site. This agency has heard similar concerns expressed at our public meetings. We recently addressed many of these issues in response to questions posed by the Missouri Coalition for the Environment. For your convenience, I am enclosing copies of the EPA's responses, as well as my recent letter to Senator McCaskill.

Currently, the site does not pose a risk to public health as there are no complete exposure pathways from the radiological waste to human receptors. While groundwater beneath the site contains some contaminants including radium, no one is using this water for any purposes. The site is fenced to prevent access. Air monitoring by the Missouri Department of Natural Resources and the Missouri Department of Health and Senior Services shows no elevated levels of radiation in the air. The EPA is closely monitoring the work at the Bridgeton Sanitary Landfill being done pursuant to an order issued by the Missouri Attorney General with the site owner to address the subsurface oxidation event.

You discuss the elements of the May 2008 Record of Decision and the EPA's path forward. The May 2008 ROD selected as a remedy capping the waste in place using a multi-layer engineered cap, with groundwater monitoring and institutional controls. In addition, the Superfund process includes a review every five years of the protectiveness of the remedy, and if any problems are noted, corrective actions are taken. After the ROD was issued, the EPA continued to receive questions from the public on the remedy. The EPA responded by tasking the responsible parties to perform a Supplemental Feasibility Study under EPA oversight to address these questions. The SFS was completed in late 2011.

At this time, the responsible parties are supplementing the SFS by completing additional work. The work includes the collection of another round of groundwater sampling. The EPA, with the assistance of the U.S. Geological Survey, will study the results of four quarters of groundwater sampling collected this past year to determine if this pathway poses a threat to human health or the environment. In addition to this groundwater evaluation, the responsible parties are also completing, under EPA oversight, additional studies to more fully evaluate excavation, treatment, and cap designs, among other things.

As a point of clarification, the FUSRAP designation is made either by the U.S. Department of Energy, based on criteria set forth in DOE policy or by Congress. The EPA plays no role in selecting sites for FUSRAP. But regardless of whether the EPA manages a site or a site enters the FUSRAP program in which the U.S. Army Corps of Engineers has lead responsibility, cleanup of the site is required by law to

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AUG 23 2013

OFFICE OF
THE REGIONAL ADMINISTRATOR

Mr. Ed Smith
Missouri Coalition for the Environment
6267 Delmar Boulevard, Suite 2E
St. Louis, Missouri 63130

RE: West Lake Landfill Superfund Site

Dear Mr. Smith and Ms. Chapman:

This responds to your letters of July 25, 2013, and August 8, 2013, with your questions included.

Should you have questions regarding these responses, please contact Region 7 Superfund Division Director, Cecilia Tapia, at 913-551-7733 or tapia.cecilia@epa.gov.

Sincerely,

Karl Brooks

Enclosures

cc: Dawn Chapman

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Response to July 25, 2013 Letter

1. How close can the subsurface smoldering event approach West Lake Landfill before the EPA interjects and emergency actions are taken? Meaning, does the EPA have a "red line" for its involvement?

   A. EPA internal experts, as well as the U.S. Geological Survey (USGS), are evaluating the current subsurface smoldering event (SSE) data and make recommendations. The potentially responsible parties (PRPs) are developing contingency plans to address these issues, and EPA and MDNR are and will be evaluating these contingency plans.

2. Has the EPA received any information regarding groundwater flow at the West Lake Landfill from the USGS? Is there a timeframe for USGS involvement?

   A. EPA has tasked the PRPs to collect additional information on groundwater at the site. This is ongoing. EPA has tasked USGS to help interpret the data as it is received so that it will to inform future decision-making.

3. Where exactly will the off-site groundwater samples be collected surrounding the West Lake Landfill Superfund Site? Will a sampling plan be made available for comment before sampling is conducted?

   A. EPA collected off-site groundwater samples at six private wells more than one mile northeast of the West Lake Landfill in July 2013 to help assess background concentrations of contaminants in the alluvial aquifer. These wells were chosen by USGS and EPA because they are the closest to the site.

4. Will EPA provide groundwater sampling (both on-site and off-site) locations, results, and plans with the community?

   A. Yes, we have done so and will continue to do so as the data becomes final. Sampling results are posted to the EPA Region 7 web site.

5. How does the EPA explain levels of Radium-226 and Radium-228 outside of Operable Unit 1? For example: The Responsiveness Summary from 2008 (page 3) states "only four wells exhibited a total radium concentration above the MCL of 5 picocuries per liter (pCi/L)" with the maximum reading being 6.33pCi/L. A map in the Groundwater Monitoring report dated December 14th displays 20 wells that show radium levels above 5pCi/L with PZ-101-SS reading 32.01pCi/L, which is outside of Area-1 and Area-2 of Operable Unit 1.

   a) With the increase in the concentration of Radium from the wells, how can the EPA continue to state that the levels of Radium being read are naturally occurring?

   A. EPA assesses the 2012 groundwater data as not proving or disproving the existence of a groundwater contaminant plume at the site. For this reason, EPA has requested that the PRPs conduct three additional rounds of groundwater sampling in 2013 which will enable USGS to provide a more comprehensive picture of current groundwater conditions at the site.

   b) Can the EPA explain the significant increase in wells that showed Radium above 5 pCi/L?

A. USGS is providing technical assistance to EPA to understand and interpret the groundwater results from the 2012 and upcoming 2013 sampling events and determine the background contribution to contaminant concentrations in the aquifer beneath the site.

6. Does the EPA contend that 8,700 tons of leached barium sulfate from Latty Avenue was mixed with 38,000 tons to 39,000 tons of "clean material" as stated in the Responsiveness Summary (page. 13)?

A. It is likely that the soil removed from the Latty Avenue site and mixed with the barium sulfate residue contained residual amounts of the other radiological wastes stored there. However, it is impossible to say how much radiological material this soil contained. EPA has extensive analytical results for the materials actually present in West Lake Landfill.

7. What studies/investigation did the National Remedy and Review Board recommend EPA Region 7 conduct to better understand the West Lake Landfill?

A. The National Remedy and Review Board (NRRB) recommended that: the excavation volume for a full removal of the radiological material be calculated; a partial excavation alternative be evaluated; treatment technologies for the waste involving apatite and/or phosphate be evaluated; the present value costs for all alternatives be recalculated using a 7% discount rate; alternative landfill cap designs be evaluated; and fate and transport modeling of radionuclides in groundwater be conducted. EPA Region 7 directed the PRPs to do these additional studies in a letter dated October 12, 2012. The PRPs are doing these studies under EPA oversight.

8. Why was the fence along OU-l Area 1 moved closer to the St. Charles Rock Road? What day(s) was the new fence constructed? By whose order?

A. In March 2013, EPA requested that the PRPs install a fence on the southeast side of OU-1 Area 1, between this landfill cell and the adjacent North Quarry Landfill cell, to prevent workers responding to the subsurface smoldering event at the Bridgeton Sanitary Landfill from accidentally entering Area 1. The PRPs agreed to do this, and also decided to upgrade existing perimeter fences around both OU-1 areas at the same time. The fence installation began in late May 2013 and concluded in June.

9. Will the EPA provide digital records on its website of all documents in the "administrative record" and "public record" concerning West Lake Landfill?

A. EPA recently assessed the condition of the Administrative Record stored in Bridgeton and determined that access to these documents needs to be improved. EPA is considering options for improving access and/or placing these documents on our webpage.

10. How many Superfund Sites in Region 7 involve radiological contamination? Has EPA Region 7 executed a ROD at a radioactive Superfund Site? If so, which ones and when?

A. There are five sites in the Superfund remedial program in Region 7 with radiological contamination: the St. Louis Airport Sites (SLAPS), West Lake Landfill, Weldon Springs, the Lake City Army Ammunition Plant (LCAAP) and the Iowa Army Ammunition Plant (IAAP). ROD-selected remedial actions for radiological contamination have been implemented at Weldon Springs (1997-2001), Iowa Army Ammunition Plant (RA ongoing now), the St. Louis Airport Sites (RA ongoing now), and Lake City Army Ammunition Plant (2008-2009).

11. How can the EPA conclude that the radioactive materials are contained based on the ASPECT plane, which only measured gamma radiation up to one foot, while the radioactive wastes are buried up to 15 feet deep and there is no liner to prevent groundwater contamination?

A. The intent of the ASPECT flyover was to determine if any surface radiological materials had migrated. The results showed that this had not occurred. To define the extent of radiological materials at depth, extensive soil and waste data collected during the Remedial Investigation defined the extent of the radioactive material in OU1.

12. Has the EPA conducted community interviews of "impacted communities" in the last ten years? If yes, does the EPA have evidence to support that community interviews were conducted? If yes, how have community interviews guided the EPA's response to community concerns? If no, does the EPA plan on conducting community interviews prior to the next Record of Decision?

A. EPA conducted initial community interviews in 1994. Since that time, EPA has canvassed community members, elected officials, and other interested stakeholders by phone and at community meetings throughout the history of the site. On January 9, 2013, EPA conducted door-to-door interviews. Follow-up phone calls were conducted with 20 community points of contact, which included residents, businesses, churches, and academia. In March 2013, numerous contacts were made with members of the Spanish Village community and the nearby trailer park. The focus of the March interviews was to share information about upcoming EPA meetings and determine how area residents and other local stakeholders preferred receive information from EPA, whether by mail, telephone, internet, etc. Community interviews and interactions are consistently used to provide EPA with information about community concerns. Social media are also used to gauge the community climate. EPA will continue to interact with community members and other West Lake Landfill stakeholders throughout the Superfund process. EPA followed up later in March and April 2013 with targeted interviews of community members.

Response to August 8, 2013 Letter

Smoldering Event

1. How close can the subsurface smoldering event approach OU-1, Area 1 before the EPA interjects and emergency actions are taken?

A. EPA internal experts, as well as the U.S. Geological Survey (USGS), are evaluating the current subsurface smoldering event (SSE) data and make recommendations. The potentially responsible parties (PRPs) are developing contingency plans to address these issues, and EPA and MDNR are and will be evaluating these contingency plans.

2. Does the EPA have a "red line" for its involvement?

A. EPA internal experts, as well as the U.S. Geological Survey (USGS), are evaluating the current subsurface smoldering event (SSE) data and make recommendations. The potentially responsible parties (PRPs) are developing contingency plans to address these issues, and EPA and MDNR are and will be evaluating these contingency plans.

3. Is there a scenario in which the EPA becomes the lead agency as it relates to the subsurface smoldering event? If so, please explain.

A. No. MDNR administers the approved solid waste disposal program in Missouri and issued a solid waste landfill permit for the cell with the SSE. MDNR's permit and its solid waste regulations that apply to the landfill are not enforceable by EPA. EPA has no authority to address Subtitle D (solid waste) landfills. This authority was fully delegated to the state.

Groundwater Monitoring Inside and Outside the Landfill

4. Has the EPA received any information regarding groundwater flow at the West Lake Landfill from the USGS?

A. EPA has asked USGS to review existing data and the new groundwater sampling results as they become available. USGS will not finalize its assessment of hydrologic conditions at the site until after the results of all four groundwater sampling events are validated.

5. Is there a timeline for USGS involvement? If so, will the EPA share the expected timeline?

A. USGS will not finalize its assessment of hydrologic conditions at the site until after the results of all four groundwater sampling events are validated. USGS will likely continue to assist EPA in interpreting this data through the proposed plan stage.

6. Where exactly will the off-site groundwater samples be collected surrounding the West Lake Landfill Superfund Site?

A. EPA collected off-site groundwater samples at six private wells more than one mile northeast of West Lake in July 2013 to help assess background concentrations of contaminants in the alluvial aquifer.

These wells were chosen because they are the closest to the site. Results from these wells will be released with the results of the July 2013 on-site groundwater sampling event.
7. The letter dated 7/26/2013 states "the EPA will have a better understanding of current groundwater conditions after the Agency...reviews the next two rounds of groundwater sampling." Considering groundwater sampling is conducted on a quarterly basis, and at the EPA meeting on 6/25/2013, administrator Karl Brooks stated that it could be as little as 400 days** before the subsurface landfill fire hits the radioactive waste, why does the EPA propose to wait 6 months (180 days) before understanding groundwater conditions?

**This number was calculated by the administrator based on the assumption that the fire is 1,200 feet away from OU-1, using a maximum SSE progression of 3ft/day. However, the current movement of the fire is figured at around .5ft/day with a maximum of 2ft/day, putting the minimum time before the fire hits the radioactive wastes at 600 days.

A. This statement was not made by Administrator Brooks but by a representative of MDNR. This number was calculated based on the assumption that the event is 1,200 feet away from OU-1, using a maximum SSE progression of 3ft/day. However, the current movement of the event is now estimated at around .5ft/day with a maximum of 2ft/day, extending the minimum time before the event reaches OU-1 at 600 days. EPA believes the contingency measures required under the Missouri Attorney General's consent order with Republic will prevent the subsurface oxidation event from reaching the radioactively contaminated landfill cells. However, EPA Region 7 continues to closely monitor the events in the Bridgeton Sanitary Landfill, with the assistance of EPA's Office of Research and Development. The groundwater sampling is being conducted to assess possible migration of the radiological wastes in OU-1 to groundwater, a process that is separate from the migration of the subsurface oxidation event in the South Quarry Landfill.

8. How will the USGS data be made publicly available?

A. The USGS assessment of hydrologic conditions at the site will be released when it is finalized. It will be placed on EPA's website.

9. When will the USGS data be publicly available?

A. The USGS assessment of hydrologic conditions at the site will be released when it is finalized. This will necessarily occur after the fourth round of groundwater sampling occurs in October 2013 and the final data report is received in early 2014.

National Remedy and Review Board Recommendations

10. What studies/investigation did the National Remedy and Review Board recommend EPA Region 7 conduct to better understand the West Lake Landfill? Please include all recommendations from the NRRB.

A. The NRRB recommended that: the excavation volume for a full removal of the radiological material be calculated; a partial excavation alternative be evaluated; treatment technologies for the waste involving apatite and/or phosphate be evaluated; the present value costs for all alternatives be recalculated using a 7% discount rate; alternative landfill cap designs be evaluated; and fate and

transport modeling of radionuclides in groundwater be conducted. EPA Region 7 asked the PRPs to do these additional studies in a letter dated October 12, 2012. The PRPs have agreed to do these studies.

11. Did EPA Region 7 provide the NRRB with concerns or reports from the general public?

A. Region 7 informed the NRRB that the Supplemental Feasibility Study was conducted to address continuing concerns expressed by the public about the ROD-selected remedy.

12. Did Region 7 provide NRRB with Dr. Bob Criss' report submitted to the EPA on March 15, 2013?

A. No. Region 7's consultation with the NRRB, and the NRRB's comments, occurred well before EPA received this document. The NRRB does not have an ongoing role in the management of the site; its function is to review a proposed remedy.

13. What information has the NRRB received as it relates to the subsurface smoldering event?

A. None. The NRRB does not have an ongoing role in the management of the site; its function is to review a proposed remedy.

14. Has the presence of the subsurface smoldering event triggered further recommendations from the NRRB as it relates to OU-1?

A. No. The NRRB does not have an ongoing role in the management of the site; its function is to review a proposed remedy. Future NRRB consultations will include this information as appropriate.

Radium in Groundwater

15. Can the EPA explain why levels of Radium-226 and Radium-228 are above the Maximum Contaminant Level (MCL) throughout the landfill, outside of Operable Unit 1? For example: The Responsiveness Summary from 2008 (page 3) states "only four wells exhibited a total radium concentration above the MCL of 5 picocuries per liter (pCi/L)" with the maximum reading being 6.33 pCi/L. A map in the Groundwater Monitoring report dated December 14th displays 20 wells that show radium levels above 5pCi/l with PZ-101-SS reading 32.01pCi/L, which is outside of Area-1 and Area-2 of Operable Unit 1.

A. EPA assesses the 2012 groundwater data as not proving or disproving the existence of a groundwater contaminant plume at the site. For this reason, EPA has requested that the PRPs conduct three additional rounds of groundwater sampling in 2013 which will enable USGS to provide a more comprehensive picture of current groundwater conditions at the site.

16. With the increase in the concentration of Radium found the wells, how can the EPA continue to state that the levels of Radium being read are naturally occurring, as the EPA stated at the January 17 public meeting at the Machinists Union Hall?

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A. EPA is obtaining assistance from the USGS to interpret the groundwater results from the 2012 and upcoming 2013 sampling events and to determine the background contribution to contaminant concentrations in the aquifer beneath the site.

17. If there is "little to no Ra-228" in the landfill waste at West Lake Landfill OU-1, where is the Radium 228 in the groundwater coming from?

A. EPA is obtaining assistance from the USGS to understand and interpret the groundwater results from the 2012 and upcoming 2013 sampling events and determine the background contribution to contaminant concentrations in the aquifer beneath the site.

18. How can the EPA assert that "recent groundwater results indicate that contamination is not migrating substantial distances from its original location where the radioactive waste was disposed" when wells outside of OU-1 and OU-2 consistently read radium levels higher than the MCL and no reports of off-site testing have yet been posted?

A. It is EPA's position that the 2012 and 2013 groundwater data do not prove or disprove the existence of a groundwater contaminant plume at the site. For this reason, EPA has requested that the PRPs conduct three additional rounds of groundwater sampling in 2013 to provide a more comprehensive picture of current groundwater conditions at the site. EPA collected off-site groundwater samples at six private wells more than one mile northeast of West Lake in July 2013 to help assess background concentrations of contaminants in the alluvial aquifer. These wells were chosen because they are the closest to the site.

[NOTE: The Missouri Coalition letter received by EPA did not contain questions numbered 19 or 20.]

21. What testing protocol or investigation will be needed to ascertain the source of the radioactivity in the groundwater?

A. The four quarterly site-wide groundwater sampling events, along with USGS' interpretation of this data, are intended to do this. Existing data from the 2000 Remedial Investigation and other historical reports will be also be used as necessary.

22. In the groundwater reports from tests in August 2012 and April 2013, the EPA posted data for both combined total radium 226 and 228 and combined dissolved radium 226 and 228. It is our understanding that total radium comes from unfiltered samples while dissolved radium is gathered from filtered samples, thus the total radium should be higher than the dissolved radium for its respective sampling location. How does the EPA account for the last two groundwater reports reading higher dissolved radium than total radium in 30% of the wells?

A. Your understanding of this issue is correct. Both EPA and USGS have considered this issue and its potential causes, including variations in groundwater concentrations during the sampling process and the procedures for handling the samples once they have been collected. Sample handling procedures were changed slightly for the July 2013 sampling event to minimize any chance that sample handling may have contributed to total radium results exceeding dissolved radium results in some previous samples.

Long Term Risks

23. The EPA said in its response: "The EPA is overseeing work by the potentially responsible parties which includes the evaluation of risk associated with multiple disasters such as fire, tornado, and earthquake." Is the EPA or PRPs working on a new Risk Assessment for West Lake Landfill? If so, when will it be published? If not, does the EPA intend to provide a new Risk Assessment that includes landfill fire risks?

A. The evaluation of these risks will be presented in the Supplemental SFS report, along with the results of the six studies recommended by the NRRB. Region 7 requested that the PRPs perform this additional work, and they agreed to do so.

24. Is the EPA or PRPs taking into consideration the possibility of concurrent disasters taking place in its risk assessment?

A. The PRPs are evaluating multiple disaster scenarios in the Supplemental SFS.

[NOTE: The Missouri Coalition letter received by EPA did not contain questions numbered 25, 26 or 27.]

Leached Barium Sulfate

28. In the EPA response on Leached Barium Sulfate, too many assumptions are made and more clarity is needed. The EPA's justification that Cotter Corporation found the materials valuable and therefore "it is likely that very little of this material was left onsite" is an inadequate assumption about what was actually dumped at the West Lake Landfill as it relates to public health. Also, Atomic Energy Commission documents appear to contradict the basis of what was mixed with the 8,700 tons of Leached Barium Sulfate. It's MCE's understanding the material eventually shipped to Colorado sat outside, unprotected from the elements for years. Has the EPA considered the possibility that the soils from Latty Avenue contain highly soluble radioisotopes based on the exposure of the material at Latty to heavy rains over the course of several years?

A. It is likely that the soil removed from the Latty Avenue site and mixed with the barium sulfate residue contained residual amounts of the other radiological wastes stored there. However, it is impossible to say how much radiological material this soil contained or the processes by which the radiological material may have interacted with the soil. EPA has extensive analytical results for the materials actually present in West Lake Landfill, and these results are appropriate for use in remedy selection.

29. The EPA's understanding of what was dumped at the West Lake Landfill is inaccurate as recently as 2008 based on the Atomic Energy Commission's 1974 investigation of Latty Avenue, which has been shared with EPA Region 7. Does the EPA plan to continue basing its understanding of what was dumped at West Lake Landfill on what appear to be inaccurate NRC reports?

A. EPA is relying on the NRC's report for an accounting of this material. EPA would prefer that samples of the original residue had been analyzed. However, EPA was not the lead agency on the Site at that time. NRC has well-established expertise in assessing radiological sites, and despite speculation by the commenter to the contrary, no credible evidence refutes NRC's conclusion that leached barium sulfate residue was placed in the West Lake Landfill.

30. Has the EPA analyzed the West Lake Landfill as recommended by Dr. Criss in point 8 of his report submitted March 15, 2013? If so, where in the volumes of reports on West Lake Landfill can this information be found? EPA's guidance here is most appreciated.

"Additional study of the site is needed. The character of the radioactive materials and processing wastes originally dumped at West Lake Landfill needs to be determined. Relevant, old chemical and radiological analyses of these materials probably exist, and physical samples may still exist. In lieu of these being found, radioactively-contaminated material from the landfill needs to be excavated and collected, processed by standard mineral separation techniques, and then analyzed and examined to determine the chemical, physical and radiological character of the separates of concern. Accurate determination of elemental ratios including Ra/Ba, Ra/U, Ba/U, Th/U, Ba/SO4, etc. by ICP-MS and other modern techniques would clearly help. Groundwater analyses need to include major elements, physical parameters such as electrical conductivity, and stable isotope data so that radionuclides can be definitively traced to their sources by well-understood methods (e.g., Criss, 1999; Hasenmueller and Criss, 2013). It is not acceptable that so little is known about this radwaste after more than 30 years of "study". Regular monitoring of the levels and radionuclide contents of groundwater also need to be undertaken. Several dozen new monitoring sites must be developed to establish conditions at least 1000 feet away from the landfill boundaries, particularly north and northwest of Area 2, to establish the scale of groundwater contamination and migration."

A. EPA is relying on the NRC's report for an accounting of this material. EPA would prefer that samples of the original residue had been analyzed. However, EPA was not the lead agency on the Site at that time. NRC has well-established expertise in assessing radiological sites, and despite speculation by the commenter to the contrary, no credible evidence refutes NRC's conclusion that leached barium sulfate residue was placed in the West Lake Landfill. The commenter's suggestion here that samples of the radiologically contaminated material within the landfill should be dug up and analyzed now to obtain results indicative of the original barium sulfate waste is not sound scientifically. This material has been in contact with a diverse mixture of soils, municipal solid waste, and other wastes in uncontrolled conditions for the past forty years. The original radiological material has been unavoidably altered by this contact, and there is no way the material could be reliably "re-constituted" now.

31. Was inductively coupled plasma mass spectrometry (ICP-MS) used to analyze soil samples in OU-1?

A. No. Isotopes of radium, thorium and uranium cannot be measured by ICP-MS. They are measured using methods that analyze the radioactive emissions of these elements (primarily alpha spectrometry). Priority pollutant metals (including barium, copper, lead, mercury, etc) in soil were measured using EPA Method 6010, which uses inductively coupled plasma – atomic emission spectrometry (ICP-AES). Volatile and semi-volatile organic compounds cannot be measured by ICP-MS.

Perimeter Fence

32. Why was the fence along OU-1 Area 1 moved closer to the St. Charles Rock Road?

A. In March 2013, EPA requested that the PRPs install a fence on the southeast side of OU-1 Area 1, between this landfill cell and the adjacent North Quarry Landfill cell, to prevent workers responding to the subsurface oxidation event at the Bridgeton Sanitary Landfill from accidentally entering Area 1. The

PRPs agreed to do this, and they also decided to upgrade existing perimeter fences around both OU-1 areas at the same time.

33. When was the new fence constructed?

A. The fence installation began in late May 2013 and concluded in June.

34. By whose order?

A. The PRPs decided to upgrade existing perimeter fences around both OU-1 areas at the same time they were installing the fence EPA requested between OU-1 Area 1 and the adjacent North Quarry Landfill cell.

Community Interviews

35. Can EPA provide evidence on its website to support that community interviews were conducted between 1994 and 2013?

A. EPA has conducted formal and informal interviews throughout the history of the West Lake Landfill Superfund Site within the timeframe addressed. Interviews were conducted in concert with the initial Community Involvement Plan by an EPA contractor who was housed in St. Louis, Missouri in 1994. In 2006, EPA held two public meetings where comments were shared by community members. In 2008, another public meeting was held where comments were again shared. In the fall of 2011, the Community Involvement Plan was updated and phone interviews were conducted to gauge comments and concerns. In January 2013 and June 2013 public meetings were held where community members weighed in with comments and concerns. In March 2013 EPA's Environmental Justice program made contact with several individuals that attended EPA's January meeting to discern how individual neighborhood residents and businesses receive their information.

   EPA does not place community interviews and/or responses on its website for any Superfund site. EPA has maintained a consistent communication exchange with Bridgeton and surrounding cities at all community levels, including mayors, boards, individual residents, and health institutes over the past two decades. Also, in maintaining transparency, our Region 7 office has a toll-free phone number for community members to use to share concerns and recommendations.

36. How have the community interviews guided the EPA's response to community concerns? This question was not answered in the EPA's last response.

A. As a result of recent community interviews, it was determined that the community preferred face-to-face meetings to on-line "town hall" meetings. EPA plans to hold further face-to-face meetings with the community to respond to their concerns.

37. EPA Superfund decision making is supposed to be guided in part by what local communities want. How does EPA qualify and/or quantify community concerns or preferred remedial action when creating a Record of Decision, or in this case, an amended ROD?

A. EPA will evaluate the new groundwater data and the additional analyses the PRPs are doing. EPA will present this information to the National Remedy Review Board, and then will hold a public meeting

and comment period for the new proposed plan. EPA is required to respond to all public comments received during the public comment period.

Public Record

38. Will the EPA provide digital records on its website of all documents in the "administrative record" and "public record" concerning West Lake Landfill?

A. EPA recently assessed the condition of the Administrative Record stored in Bridgeton and determined that access to these documents needs to be improved. EPA is considering options for improving access and/or placing these documents on our webpage.

39. Does the EPA have different delineations for "administrative record" and "public record?"

A. No, the Administrative Record is the record to support EPA decisions and is made available to the public.

Other Superfund Sites

40. How many Superfund Sites in Region 7 involve radiological contamination?

A. There are five sites in the Superfund remedial program in Region 7 with radiological contamination: the St. Louis Airport Sites (SLAPS), West Lake Landfill, Weldon Springs, the Lake City Army Ammunition Plant (LCAAP) and the Iowa Army Ammunition Plant (IAAAP).

41. Has EPA Region 7 executed a ROD at a radioactive Superfund Site? If so, which ones and when?

A. ROD-selected remedial actions for radiological contamination have been implemented at Weldon Springs (1997-2001), Iowa Army Ammunition Plant (RA ongoing now), the St. Louis Airport Sites (RA ongoing now), and Lake City Army Ammunition Plant (2008-2009).

Schedule

42. Does the EPA have a schedule moving forward that it can provide regarding the decision making process?

A. After PRPs complete additional work which EPA had requested (one more groundwater monitoring event in 2013, preparation of six studies in 2014), steps remaining in the decision making process include:

- PRPs submit supplement to SFS to take into account results of additional work.
- EPA consults with NRRB about Proposed Plan.
- EPA issues Proposed Plan which identifies changes to 2008 ROD remedy.
- Public comments on plan and public meeting held.
- EPA issues amended ROD based on Proposed Plan and public comments.
- EPA resumes negotiations of Consent Decree with PRPs.

- DOJ lodges negotiated Consent Decree with Court, publishes notice and takes public comment.
- EPA/DOJ respond to public comment and DOJ files motion to enter.
- Assuming Court enters Consent Decree, implementation of the remedy begins.

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